CLAIMS:

1. A multi-stack optical data storage medium for recording using a focused radiation beam having a wavelength λ and entering through an entrance face of the medium during recording, comprising:

- a first substrate with present on a side thereof:
- a first recording stack named L_0, comprising a recordable type L_0 recording layer, and formed in a first L_0 guide groove, the L_0 recording layer having a thickness d_{L0G} in the groove and a thickness d_{L0L} adjacent the groove, and a first reflective layer present between the L_0 recording layer and the first substrate,
- second substrate with present on a side thereof:
- a second recording stack named L_1 comprising a recordable type L_1 recording layer, the L_1 recording layer having a thickness d_{L1G} in the groove and a thickness d_{L1L} adjacent the groove, said second recording stack being present at a position closer to the entrance face than the L_0 recording stack and formed in a second L_1 guide groove,
- a transparent spacer layer sandwiched between the recording stacks, said transparent spacer layer having a thickness substantially larger than the depth of focus of the focused radiation beam,

characterized in that the depth of the first L_0 guide groove is smaller than 0.15λ and that d_{L0L} is substantially equal to or larger than d_{L1G}.

2. A multi-stack optical data storage medium according to claim 1, wherein d_{L0G} is substantially equal to or larger than $2d_{L1L}$.

3. A multi-stack optical data storage medium according to claim 1, wherein the recordable type L_0 and L_1 recording layers comprise an organic dye.

4. A multi-stack optical data storage medium according to claim 3, wherein d_{L1G} is larger than d_{L1L}.

5. A multi-stack optical data storage medium according to claim 4, wherein a dielectric layer is present at a side of the L_0 recording layer opposite from the side where the first reflective layer is present.

6. A multi-stack optical data storage medium according to claim 5, wherein the dielectric layer has a thickness in the range of 5 nm – 120 nm.

7. A multi-stack optical data storage medium according to claim 4, wherein a second reflective layer comprising a metal is present at a side of the L_0 recording layer opposite from the side where the first reflective layer is present.

8. A multi-stack optical data storage medium according to claim 7, wherein the second reflective layer has a thickness in the range of 5 nm -15 nm.

9. A multi-stack optical data storage medium according to claim 7 or 8, wherein the second reflective layer mainly comprises a metal selected from the group of Ag, Au and Cu.

10. Use of an optical data storage medium as claimed in any one of the preceding claims for multi stack recording with a reflectivity level of the first recording stack L_0 as such of more than 50% and modulation of recorded marks in the L_0 recording layer of more than 60%.